

Computer Assisted Auditing Techniques for Financial Audit Effectiveness and Efficiency

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Abstract

In accounting financial transaction, business entities may either choose to record it manually or with the aid of technology. Nowadays, business enterprises and companies are already equipped with computer software for financial recording and financial reporting purposes. This has speed up the accounting cycle and minimized errors that a manual computation does.

If accounting has already emerged with technology, auditing this pile of financial transactions would also require the auditor to be updated with this trend. Of course, auditing may also be done purely manually if given enough printed reports and documents, but it takes very much time and effort. However if most of the data are computerized, the auditor will be required to have knowledge in auditing technology. This paper discusses the different types of audit, the audit process and different types of computer assisted auditing techniques.

Keyword : Auditing, Computer Assisted Auditing Techniques (CAATs)

1. Introduction

Auditing is a systematic process wherein evidence concerning assertions about economic actions and events are objectively obtained by a qualified and competent independent person to ascertain the degree of correspondence between those assertions and established criteria and communicate the results to interested users[1].

Generally, audits can be classified according to the assertion or data. It may be an operational audit, compliance and the most common of all - financial audit[2].

Operational audit is usually conducted by the entity's internal auditor and this involves a systematic review of effectiveness, efficiency and economy of operation, this also includes management and performance audit[3]. This type of audit is future-oriented, systematic and independent evaluation of organizational activity. Financial data may be used in operational audits but the primary sources of evidence are the operational policies and achievements related to organizational objectives.

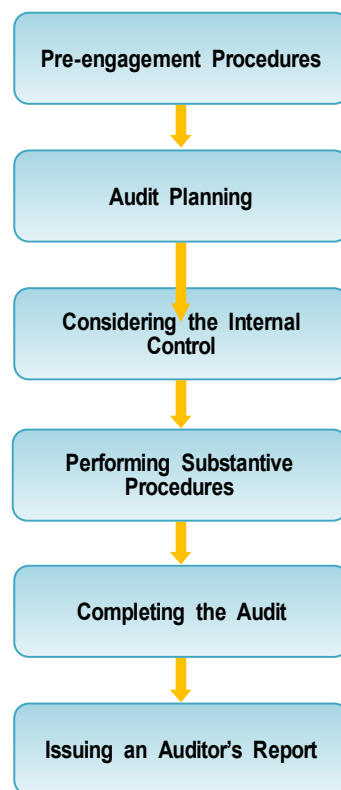
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Compliance audit is an independent assessment of whether a given subject matter is in compliance with the applicable authorities identified as criteria[4]. Compliance audits are carried out by comprehensively reviewing an organization's adherence to regulatory guidelines.

Finally, financial audit is conducted in order to provide an opinion whether financial statements are stated in accordance with an applicable financial reporting framework. The auditor gathers evidence to determine whether the statements contain material errors or other misstatements in order to provide an opinion whether financial statements are fairly stated in accordance with accounting standards[5].

In addition, audits can also be classified according to the kind of auditor performing the test which includes independent external audit, internal audit and government audit. Furthermore other types of audits are IT audit, fraud audit, quality audit, environmental audit, social audit, non-statutory audit, information systems audit, integrated audit, investigative audit and follow-up audit[2].



[Fig. 1] Stages in the Audit Process

Generally, as shown in [Fig. 1], the audit process of financial statements covers pre-engagement

procedures, audit planning, considering the internal control, performing substantive procedures, completing the audit and issuing an auditor's report[2].

In the pre-engagement procedures, the auditor assesses if he is qualified to handle the engagement and to evaluate whether the financial statements of the client is auditable. With the use of an engagement letter, the auditor then establishes an understanding with the clients regarding the nature of services to be rendered and the responsibilities of each party.

In the audit planning, the entity and the environment must be understood in order to identify the transactions and events that can affect the financial statements. In order to design the nature timing and extent of the procedures to be undertaken, a preliminary assessment of audit risk is made. A detailed approach for the expected conduct and scope of the examination must also be made. This process continues throughout the entire audit as the auditor accumulates sufficient appropriate audit evidence to support the opinion.

The auditor then considers the entity's internal control because this directly affects the reliability of the financial statements. Test of controls are sometimes performed in order to determine whether key controls are properly designed and are operating effectively.

Using the data gathered in the previous steps, the auditor performs substantive procedures to determine whether the entity's financial statements are presented fairly in accordance with the proper financial framework.

Series of procedures are then made nearly after the end of an audit. This include the identification of subsequent events that may affect the financial statements, identifying matter such as litigation, claims and assessments, obtaining written management representations and performing wrap-up procedures. The final decision is then made regarding the veracity of financial statements and the appropriate auditor's report that must be made.

Finally, the auditor's report must be issued. This is a written medium wherein the auditor expresses his opinion on the financial statements.

With the aid of technology, these audit processes mentioned above most especially with financial audit can be made simpler and easier. Auditors are currently using these Computer Assisted Auditing Techniques of commonly called as CAATs in gathering data during the audit planning and consideration of internal control and to make tests. But before deciding to use CAATs, the following factors needs to

be considered[6]:

- Experience, technology knowledge and expertise of the auditor
- Availability and accessibility of suitable CAATs and Computer Information System facilities
- Efficiency and effectiveness of using CAATs over manual techniques
- Time constraints
- Integrity of the Information System and Information Technology environment
- Level of audit risk
- If there are no visible evidence available and there are no other options aside from performing CAATs
- Costs associated with the use of technology

2. Computer Assisted Auditing Techniques in Financial Auditing

External Financial audit is very important for an entity or company. The audit does not state that the financial statements are 100% correct. Instead, the ideal audit report just says that the financial statements are free from material misstatements and are fairly presented in accordance with the appropriate financial framework. Though audit can expose things such as errors, miscalculations and fraud, the auditor is not liable if he could not see all those things as long as he has conducted the audit in accordance with the standard auditing procedures.

Financial audit is very important because these financial statements are being used for internal and external reporting. Internally, these statements are useful in making economic decisions. Externally this is used for reports to the government and to the stakeholders.

It is accepted that advances in technology have greatly affected the audit process. With the continuously increasing system complexity and the vast amount of transactions, it is impractical for auditors to conduct the overall audit manually[7]. That's why Computer Assisted Audit Techniques are needed. These are methods of using a computer to assist the auditor in the performance of the computer audit[8]. We must understand that each business has a different accounting structure and different types of software used. Despite of this fact, CAATs help the auditor gather and analyze enough data for audit.

CAATs are being employed with other auditing techniques. As its name suggests, this is a tool to assist auditors in performing their work faster, better, and at a lower cost. As this becomes more common, the auditing profession requires this technical skill.

During a financial audit, these tools are best used in substantive testing, compliance testing and commonly used in conducting year-end tests.

Substantive tests of transactions and balances are used to reduce detection risk, so that the auditor's desired level of audit risk can be achieved[9]. Substantive test of transactions are designed in order to verify the value of transactions. On the other hand, substantive tests of balances are audit tests that substantiate the ending balance of a general ledger account.

In almost all systems, it would be impractical to examine large volumes of transactions and records. It takes much time, effort and cost to check all transactions. Instead, it is a common practice in audit examination to select only a sample of transactions. In some cases, it may not be feasible to select such a sample without the aid of a computer because of the volume of data to be processed and the amount of computation required. And in nearly all cases it is quicker and more efficient to use a computer[10].

Picking samples on your own discretion may cause an auditor to be subjective. So in order to avoid this, CAATs are there to help select samples from the population. Obtaining representatives in the population may be done through random sampling, systematic sampling, stratified sampling, monetary unit sampling and other effective sampling techniques.

In compliance testing, certain types of controls cannot be tested effectively using standard compliance testing procedures, particularly those which are contained within application programs and operating system software. In some cases, there may be exception or error reports when a control failed, but no positive proof that it worked. CAATs can further provide this proof[10].

Year-end tests usually consist of both substantive and compliance tests related to end of year procedures. The auditor should always be careful when proving final accounts figures to ensure that the only evidence is not printouts produced by the system unless they can unreservedly be assured of their accuracy. In nearly all cases it is preferable to use independent audit software in order to provide reconciliation between account balances and the underlying transactions[10].

3. Types of Computer Assisted Auditing Techniques

CAATs include many types of tools and techniques. This paper just discusses the generalized audit software, utility software, test data, integrated test facility, parallel simulation, audit expert systems and embedded modules.

3.1 Generalized Audit Software (GAS)

This is a type of software that has the capability to directly read and access data from various database platforms, flat-file systems and ASCII formats. Generalized Audit Software provides auditors with an independent means to gain access to data for analysis and the ability to use high-level problem-solving software to invoke functions to be performed on data files. Its features include mathematical computations, statistical sampling and analysis, sequence checking, duplication checking and re-computations[8]. This can be also called as package programs or generalized computer programs which are designed to perform data processing functions[6].

[Table 1] shows the GAS approaches to gathering evidence about audit assertions[11].

[Table 1] GAS Approaches to Gathering Evidence about Audit Assertions

Financial Statement Assertion	Using Sampling to Gather Evidence	Using GAS to Gather Evidence
Existence or Occurrence	To take a sample of recorded transactions and for selected items examine underlying evidence or send out confirmations	Sort the file to identify the largest items, the smallest items, the last transactions during the year for testing of cutoff, or the most frequent items within the file; also useful in scanning for unusual transactions.
Completeness	Take a sample of subsequent cash disbursements to search for unrecorded liabilities	Sort the file by vendor to identify the most commonly used vendors, or the least commonly used vendors; or comparing the list of vendors from the prior year to the current year.
Rights and Obligations	Perform in conjunction with existence testing, including examining source documents	Sort the file to scan for unusual transactions

Valuation and Allocation	Select items and trace back to source documents, such as purchase agreements or invoices	Foot the file and test computations
Presentation and Disclosure	Verify estimates or other items for proper disclosure	

3.2 Utility Software

Utility software is the subset of software and is generally part of the operating system and security software packages that are provided by computer manufacturers and software vendors. Usually, this is used by entity's to perform common data processing functions, such as sorting, copying, creating, merging, erasing and printing files[6, 8]. These functions also became useful in order to provide the auditors with the necessary data to test the assertions.

3.3 Test Data

Test data involve the auditors using a sample set of data to assess whether logic errors exist in a program and whether the program meets its objectives[8]. This is used by auditors to test the operation of the enterprise's computer program. This test data involves a set of dummy or fictitious transactions developed by the auditor. The client then enters it to the computer programs to determine whether the control which the auditor intends to test is operating effectively. The test data techniques are used to verify and evaluate the computer's processing ability but it does not check the completeness or accuracy of input and update of data and master files[6].

3.4 Integrated Test Facility (ITF)

This is a method creates a fictitious entity in a database to process test transactions simultaneously in the midst of an actual transaction processing[12]. After doing the simulation, the auditor then ensures that the dummy transactions are identified to avoid contamination of control totals.

Integrated Test Facility may sometimes be referred to as the minicompany technique[6]. Like the test data technique, ITF is used to test the procedures contained within the client's program.

3.5 Parallel Simulation

Parallel simulation is conducted in order to generate an independent program to simulate part of an application. A typical example is when the auditor wants to prove that an interest calculation program works properly, but because of excessively high data volumes he is unable to do this easily. The auditor may then decide to test real data so he should write his own interest calculation program and runs his simulation program against the same source data file that is submitted to the operational interest calculation suite[10]. Results must then be compared. The parallel processes should obtain the same results.

3.6 The Audit-expert System

The audit expert system will give direction and valuable information to all levels of auditors while carrying out the audit because the query-based system is built on the knowledge-base of the senior auditors or managers. These tools and techniques can be used in performing various audit procedures including tests of details of transactions and balances, analytical review procedures, Compliance test of IS general controls, Compliance of IS application controls, Penetration and OS vulnerability assessment testing[10].

3.7 Embedded Audit Modules

This is sometimes built into an entity's computer system to provide data for later use of the auditor. Common examples of these modules include Snapshots, System Control Audit Review File (SCARF), Transaction Tagging and Audit Hooks.

3.7.1 Snapshots

This involves taking a picture shot of a transaction as it flows through the computer systems. This technique permits an auditor to track data and evaluate the computer process applied to the data[6].

3.7.2 System Control Audit Review File (SCARF)

This involves embedding audit software modules within an application system to provide continuous

monitoring of the transactions in the system. The information is collected into a special computer file that can be examined by the IS Auditors[13].

3.7.3 Transaction Tagging

This is a technique wherein an identifier providing a transaction with a special designation is added to the transaction record. This tag is usually used in order to allow logging of transactions[6].

3.7.4 Audit Hooks

These are audit routines that flag suspicious transactions. At appropriate points in the client's software, audit hooks allow an auditor to modify the software by inserting specific commands to accumulate totals or otherwise manipulate data for audit purposes[6]. This approach is also known as real-time notification, which displays a message on the auditor's terminal as these questionable transactions occur[14].

4. Conclusion

The increasing power and sophistication of computers resulted in the creation of technological tools for the auditor. Computer Assisted Auditing Techniques (CAAT) has surely made auditing efficient and effective. With this technology and the auditor's assessments, audit processes were made easier than before. Audit nowadays may seem to be already automated but in the end, the opinion on the company's audit report to be issued will still depend on the tip of the auditor's pen.

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